BULLETIN No. 23.

DEPARTMENT OF AGRICULTURE.

TABULATED ANALYSES

OF

COMMERCIAL FERTILIZERS

FROM

SAMPLES SELECTED IN ACCORDANCE WITH ACT OF JUNE 28, 1879,

BY THE

Pennsylvania Department of Agriculture,

FROM JANUARY 1, 1897, TO AUGUST 1, 1897.

CLARENCE M. BUSCH,
STATE PRINTER OF PENNSYLVANIA.
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PENNSYLVANIA
STATE LIBRARY

AN ACT

To regulate the manufacture and sale of commercial fertilizers.

Section 1. *Be it enacted, &c.*, That every package of commercial fertilizer sold, offered or exposed for sale for manurial purposes within this Commonwealth, shall have plainly stamped thereon the name of the manufacturer, the place of manufacture, the net weight of its contents, and an analysis stating the percentage therein contained of nitrogen, or its equivalent in ammonia, in an available form, of potash soluble in water, of soluble and reverted phosphoric acid, and of insoluble phosphoric acid: *Provided*, That any commercial fertilizer sold, offered or exposed for sale which shall contain none of the above named constituents shall be exempt from the provisions of this act.

Section 2. Every manufacturer or importer of commercial fertilizers as specified in section one of this act, shall on or before the first day of January, next ensuing, or before offering them for sale in this Commonwealth, file annually with the Secretary of the State Board of Agriculture, an affidavit showing the amount of said fertilizer sold within the Commonwealth during the last preceding year, and if the said amount shall be one hundred tons or less, he shall pay to the Treasurer of the State the sum of ten dollars for each and every article of such commercial fertilizer sold within the State during the last preceding year, and if the said amount shall exceed one hundred tons and be less than five hundred tons, he or they shall pay the sum of twenty dollars as aforesaid, and if the said amount shall be five hundred tons or more, he or they shall pay the sum of thirty dollars as aforesaid. If such manufacturer or manufacturers, importer or importers, shall not have made any sales within the Commonwealth during the preceding year, he or they shall pay the sum of ten dollars as aforesaid. Every such manufacturer shall at the same time file with the Secretary of the State Board of Agriculture, a copy of the analysis required by section one of this act, and shall then be entitled to receive from the Secretary of the State Board of Agriculture, a certificate showing that the provisions of this act have been complied with: *Provided*, That the certificates which have been issued for the year ending July thirty-first, one thousand eight hundred and ninety-five, are hereby extended until the thirty-first day of December, one thousand eight hundred and ninety-five. *(As amended by act, June 26, 1895.)*

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Section 3. Any person selling, offering or exposing for sale any commercial fertilizer without the analysis required by section one of this act, or with an analysis stating that it contains a larger percentage of any or more of the above named constituents than is contained therein, or for the sale of which all the provisions of section two have not been complied with, shall be guilty of a misdemeanor, and on conviction, shall forfeit a sum not less than twenty-five and not exceeding one hundred dollars for the first offense, and not less than two hundred dollars for each subsequent offense, one-half of which shall be for the use of the informer, and the remainder for the county in which the conviction is secured: *Provided*, Said informer be the purchaser and goods be for his own use.

Section 4. It shall be the duty of the Board of Agriculture to analyze such specimens of commercial fertilizers as may be furnished by its agents, said samples to be accompanied with proper proof, under oath or affirmation, that they were fairly drawn; the fee for such analysis shall be determined by the executive committee of the Board, and be based upon a fixed rate for each determination, and shall in no case exceed seventy-five per centum of the usual price paid for such services, and shall be payable from the Treasury of the Commonwealth in the manner as now provided by law.

Section 5. That the money paid into the treasury under the provisions of this act shall constitute a special fund from which the cost of selecting samples, making analyses and other expenses incident to the carrying into effect the provisions of this act shall be paid: *Provided*, That the total amount thus expended shall in no case exceed the amount paid into the treasury. *(As amended by act, May 21, 1895.)*

Section 6. The term "commercial fertilizers," as used in this act, shall be taken to mean any and every substance imported, manufactured, prepared, or sold for fertilizing or manuring purposes, except barnyard manure, marl, lime, and wood ashes, and not exempt by the provisions of section one of this act.

Section 7. This act shall go into effect on and after the first day of August, one thousand eight hundred and seventy-nine.

IMPORTANT.

NOTE CHANGE IN VALUATION.

COMMONWEALTH OF PENNSYLVANIA,
DEPARTMENT OF AGRICULTURE,
Harrisburg, Pa., May 1st, 1897.

The variations from year to year in the prices of commercial fertilizer ingredients, makes it necessary for the Department to revise its values so as to conform to the changed conditions of the trade.

The Department Chemist, Dr. William Frear, has accordingly been requested to make an examination of the entire subject of values of fertilizer ingredients, and revise the schedule so as to conform to the actual prices paid in the markets.

The following report is the result of this investigation, and the facts are set forth somewhat in detail in order that manufacturers and others may know the precise grounds upon which the changes of values in the new schedule are founded. Great care has been exercised in the preparation of the rates for 1897, and it is believed that no injustice will in any case be found to have been done any manufacturer or dealer. The values have been so estimated as to make the chemist's rating a little higher than the actual selling price of the goods in the market. Full explanation of the various methods used in arriving at these results will be found in the body of this paper.

JOHN HAMILTON,
Deputy Secretary and Acting Secretary of Agriculture.

THE VALUATION OF COMMERCIAL FERTILIZERS, MAY 1, 1897.

State College, Centre county, Pa., May 1st, 1897.

Prof. John Hamilton,
Acting Secretary of Agriculture, Harrisburg, Penn'a.

Dear Sir: I have the honor to transmit herewith a condensed statement of the variations in the wholesale prices of fertilizer ingredients from 1894 to the present, and of the revised schedule of retail rates adopted with your sanction for the use of the fertilizer control of this State during the year 1897.

Very respectfully,
WILLIAM FREAR,
Chemist.

The object of an official valuation of commercial fertilizers is to enable the consumer to judge approximately whether he has been asked to pay for a given brand more than the fertilizing ingredients it contains and market conditions prevailing at the time would warrant. It is clear, therefore, that no attempt is made in this valuation to indicate whether the fertilizer valued possesses a greater or less crop-producing capacity than another fertilizer; but only whether it is higher priced than another of the same general composition.

For this purpose it must be so computed as to include all the elements entering into the cost of a fertilizer as it is delivered to the consumer. These elements may be conveniently grouped as follows:

1. The wholesale cost of the ingredients.

2. The jobber's gross profit on the sale of the ingredients; this includes office expenses, advertising, losses, etc.; for the purpose of the present computation it may be assumed that the sum of this gross profit and the wholesale cost of the ingredients is equivalent to the retail price of the single ingredients near the wholesale markets in ton lots of original packages for cash.

3. The expense and profit of mixing: This item applies only to complete fertilizers, rock and potash, and ammoniated rock; not to dissolved or ground bone, or to dissolved rock.

4. The expense and profit of bagging.

5. Agents' commission: This item includes not only the commission proper, but every advance in price due to the sale of the goods through an agent in small quantities on time, rather than directly to the consumer in ton lots for cash.

6. Freight from the wholesale market to the point of delivery.

The valuations for 1894 were based:

1. Upon the wholesale prices from September, 1893, to May, 1894, of the raw materials used in fertilizer manufacture, the quotations of the New York market being adopted for all materials except acidulated phosphate rock and ground bone.

2. Upon an allowance of 20 per cent. of the wholesale prices above mentioned, to cover jobbers' profits.

By adding the 20 per cent. allowed by jobbers' gross profit to the wholesale price of the several raw materials, the retail price in original packages at the jobbers' warehouse is obtained. Since the amount of the several valuable fertilizing constituents in the various raw materials is known, it is a simple matter to determine the corresponding retail value per pound of the valuable fertilizing constituents yielded by each raw material. A schedule of these pound values affords a convenient basis of computation of the value per ton of various fertilizers, whose composition is ascertained by analysis.

The values assigned for 1894 to the other elements in the cost of the fertilizer at the point of delivery were:

2. For mixing, $1.00 per ton.

4 For bagging, $1.00 per ton, in all cases except those in which the article was sold in original package; the cost of the package being, in such cases, included in the wholesale price.

5. For agents' commission, 20 per cent. of the cost of the goods f. o. b at the jobbers' or mixers' warehouse.

6. For freight, $2.00 per ton; the cost of the freight in lots of twelve tons or over, from the seaboard to Harrisburg, averaging $1.68 per ton.

The following valuation of dissolved South Carolina rock illustrates the method:

Phosphoric acid:

	Per cent.	*Weight per ton.*	
Soluble,	11.50	230 lbs. @ 4 cts.	= $9 20
Reverted,	2.50	50 lbs. @ 3½ cts.	= 1 75
Insoluble,	1.00	20 lbs. @ 2 cts.	= 0 40
Retail cash value of ingredients,			$11 35
Bagging,			1 00
Cash value of goods ready for shipment,			$12 35
Agents' commission, 20 per cent.,			2 47
Freight,			2 00
Commercial value per ton,			$16 82

It is not to be expected, of course, that the valuations thus computed will precisely represent the fair price to be charged for a brand in each locality and in every transaction. Market conditions, competition, distance from factory, all introduce minor variations. Nevertheless, to make approximation reasonably close, the average valuation of a given class of goods ought to agree closely with its ascertained average selling price. Whenever such an agreement is no longer obtained by the use of a schedule, it is evident that the schedule of retail values of the constituents, or the added allowances for mixing, etc., requires revision.

The schedule of values prepared for use during the season of 1894, was by direction of the Secretary of Agriculture, also used for the seasons of 1895 and 1896. The valuations of 1894 agreed closely with the selling prices, but a constantly increasing discrepancy was observable thereafter, the selling prices falling below the computed values.

The computed values of fertilizers analyzed during the fall of 1896, exceeded the actual selling prices of the same goods by the following amounts:

In the case of	Dollars per ton.
Complete fertilizers,	$3 12
Ground bone,	5 84
Dissolved rock,	4 03

These differences are altogether too great.

The discrepancy is, for the most part, explained by a considerable fall in the prices of the raw materials of fertilizer manufacture shown in the following table:

WHOLESALE PRICES OF RAW FERTILIZER MATERIALS IN NEW YORK.

SUBSTANCE.	Amount priced.	Mean price September, 1893, to May, 1894.	Mean price September, 1896, to March, 1897.	Proportion of latter price to former, in per cent.
Sulphate of ammonia,	Cwt.	$3.5007	$2.2196	63.32
Nitrate of soda,	Cwt.	1.9346	1.8732	96.81
Dried blood, high grade,	Unit (20 lbs)	2.5334	1.7499	69.05
Dried blood, low grade,	Unit (20 lbs)	2.4150	1.6409	68.08
Concentrated tankage,	Unit (20 lbs)	2.516	1.575	62.61
Rough bone,	Ton	19.50	16.50	84.63
Ground bone,	Ton	22.50	21.75	96.68
Bone meal,	Ton	23.59	20,558	87.16
Fish guano (dry),	Ton	25.26	18.10	71.66
Fish guano (acid),	Ton	15.46	10.64	69.00
Refuse bone black,	Ton	19.50	18.25	93.61
Phosphate rock (Charleston),	Ton	4.74	3.475	73.30
Phosphate rock (Peace River,	Ton	.....	3.25	.....
Phosphate rock (sand 70 per cent.),	Ton	.....	4.25	.....
Acid phosphate,	Unit	.61	.545	89.35
Double manure salts,	Cwt.	1.158	1.0425	90.01
Sulphate of potash,	Cwt.	2.136	2.0125	94.21
Kainit,	Ton	9.298	9.05	97.31
Muriate of potash,	Cwt.	1.854	1.8125	97.77

The values expressed are those given in trade journals issued weekly, and express the price of a ton, hundred weight or a unit, according to the practice of the trade. In the third column is presented the selling price during the latter season in percentage of the selling price of the earlier season, in order that the direction and extent of the change may be readily presented.

These figures, from the "Oil, Paint and Drug Reporter," of New York, are supplemented by quotations for March and April, 1897, given in the circulars of Thomas H. White & Co., Baltimore, Maryland, brokers in fertilizer materials.

FERTILIZER MATERIALS.	Quantity quoted.	Guarantee, per cent.	Quotation, March 1, 1897	Quotation, April 1, 1897
Fine blood (Chicago),	Unit	Ammonia	$1.45	$1.40
Fine blood (Kansas City),	Unit	Ammonia	1.425	1.35
Crushed blood (Kansas City),	Unit	Ammonia	1.35	1.30
Ground blood (Baltimore),	Unit	Ammonia	.....	1.60
Azotine (Baltimore),	Unit	Ammonia	1.65	1.625
Concentrated tankage (Chicago),	Unit	Ammonia	1.30	1.225
Sulphate of ammonia (Baltimore),	Cwt.	.....	2.15	2.25
Crushed tankage (Chicago),	Ton	10. (a)	14.00	13.00
Crushed tankage (Chicago),	Ton	10 (p)		
Crushed tankage (Chicago),	Ton	9.5(a)	13.75	3.'0
Crushed tankage (Chicago),	Ton	18 (p)		
Crushed tankage (Chicago),	Ton	5		
Crushed tankage (Chicago),	Ton	9.5(a)	13.00	2.00
Crushed tankage (Chicago),	Ton	8.5(a)	11.50	1.50
Crushed tankage (Chicago),	Ton	20 (p)		
Standard tankage (Baltimore),	Ton	9 (a)	1.65 & 10.	1.60 & 10. to 1.625 & 10.

The market shows, at present, no general upward tendency, though there is such a tendency in the case of sulphate of ammonia and nitrate of soda, and an opposite tendency in the case of rock phosphates. These prices are, moreover, confirmed by the rates at which raw materials have been offered at retail since January 1, 1897.

In accordance with their practice of annual revision of the schedule of retail, pound values for fertilizer constituents, representatives of the fertilizer controls of New England and New Jersey, adopted, in February last, a schedule modified in accordance with the wholesale markets since September 1, 1896. Their schedule for 1897 is presented below, togther with that for 1894 and with a schedule reduced in exact accordance with the percentage reduction in the wholesale prices of the raw materials on the New York market for 1894 to 1897.

TRADE VALUES OF FERTILIZER INGREDIENTS FOR 1897.

Adopted by New England States and New Jersey.

FERTILIZER INGREDIENTS.	Cents per pound, 1894.	Cents per pound, 1897.	Exactly computed, 1897.
Nitrogen in ammonia salts,	19	13½	12
Nitrates,	14½	14	14
Organic nitrogen in dry and fine ground fish,	.....	.....	....
Meat and blood and mixed fertilizers,	18½	14	12.3
in cotton seed meal,	15	12	....
in fine bone and tankage,	16½	13½	14.0
in medium bone and tankage,	15	11	12.7
in coarse bone and tankage,	8.9	8	7.5
Phosphoric acid, water-soluble,	6	5½	....
citrate-soluble,	5½	5	....
of fine ground fish, cotton seed meal, castor pomace and wood ashes,	5	4½	....
of dry ground fine fish, bone and tankage,	5½	5	3.4
of medium bone and tankage,	4½	4	3.0
of coarse bone and tankage,			
of mixed fertilizers (insoluble in ammonium citrate,)	2.6	2½	2.2
Potash as sulphate and in forms free from muriate (or chloride),	2	2	....
as muriate,	5¼	5	5
	4½	4½	4.4

It will be observed with reference to the gradation of ground bone according to fineness, that a different classification has been adopted by the New England States and New Jersey, in that the grades heretofore separated as "fine medium," "medium," and "coarse," are now divided into two classes only, namely, "medium," containing all particles of diameter less than 1-25 inch; and "coarse," containing all particles of a diameter greater than 1-25 of an inch.

Since the market tendency has not been upward since the fall of 1896, it may fairly be assumed that the above schedule of rates will work no hardship to the manufacturer, if the corresponding valuation of the average fertilizers sold last fall is not below the ascertained average selling price of these fertilizers.

The additional data for such computation are presented below:

MEAN COMPOSITION, VALUATION AND SELLING PRICES OF FERTILIZERS ANALYZED DURING THE FALL OF 1896.

	Complete Fertilizers.	Ground bone.	Dissolved bone.
Composition: (in per cent.),			
Water,	.....	.....	.....
Phosphoric acid,	8.76	6.01	10 32
soluble,	5.22	.....	10.32
reverted,	2.79	.....	.....
insoluble,	2.76	22.86	1.92
Potash,	2.79	.....	.....
Nitrogen,	1.52	3.6	.....
Fineness of bone: (in per cent.)			
Fine (less than 1-50 inch),	66.3		
Fine-medium (1 25 to 1-50 inch),	24.1	.....	.....
Medium (2-25 to 1-25 inch),	9.65		
Coarse (over 2-25 inch),	.05		
Estimated commercial value, 1894 schedule,	28.23	33.84	18.00
Actual selling price,	25.11	28.00	13.97

Applying the New England schedule for 1897 to the average fertilizers of the several classes above represented, the following figures are obtained:

	Actual selling price.	Revised valuation.	Excess of valuation.
Complete fertilizers,	$ 5 11	$25 78	$0 67
Ground bone,	28 00	38 58	10 58
Dissolved rock,	13 97	23 47	9 50

It is evident that, while the rates used in computing the commercial value of complete goods in New England and New Jersey give results also in close agreement with the selling prices in Pennsylvania, they give altogether excessive valuations in the case of ground bone and of acidulated rock phosphates. In past years, the same fact has been observed.

In 1893, the selling prices of bone goods in Pennsylvania indicated wholesale values 25 per cent. lower than those given in New York quotations. Reference to the table of average wholesale quotations in New York shows that from 1893-94 to 1896-97, the price of rough bone dropped to 84.63 per cent. of the earlier price. But, by a reverse application of the method for computing retail selling prices at the point of delivery from the wholesale price, the selling prices of 1893 and of the fall of 1896, indicate a reduction to 81 per cent. of the earlier price. Convenient pound rates most nearly corresponding to the latter percentage of the retail pound rates for bone in 1894 are 3, 2½ and 2 cents for phosphoric acid, and 10, 9 and 7 cents for nitrogen, in fine, medium and coarse grades of bone, respectively. Valued by use of these figures the average bone analyzed in the fall of 1896 would receive a valuation of $28.42 or 42 cents more than the actual selling price.

With reference to the rock phosphates, it was noted in the circular introducing the schedule of valuations for that year, as it had been for several years before, that the use of rock goods without other admixtures is so small in the states using the New England schedule that it is not deemed needful to make a special valuation for the several forms of phosphoric acid derived from this source. In

Pennsylvania, however, the great volume of the trade in this particular article has made needful a separate valuation, corresponding to the much lower price of rock phosphoric acid.

Nor do the variations quoted for New York apply closely to Pensylvania transactions. Acid phosphate dropped according to New York quotations, only 10 per cent. from 1893-4 to 1896-7; whereas, the wholesale values obtained by a reverse application of the method of computation to the actual retail selling prices during the same season, indicate a fall in Pennsylvania amounting to 27.7 per cent. If values obtained by a reduction of those scheduled in 1894 for rock phosphoric acid, be used in computing the value of the goods sold in the fall of 1893, the valuations will be $2.21 per ton above the actual selling price. But, by using the figures 3, 2½ and 1½ cents, respectively, for the soluble, reverted and insoluble phosphoric acid, the commercial valuation exceeds the actual selling price by only 21 cents.

On the basis of the foregoing statements, the following shedule of retail pound rates is adopted for use during the year 1897, the new gradation of bone being accepted in this State for the sake of uniformity with neighboring states:

SCHEDULE OF VALUES FOR FERTILIZER INGREDIENTS, 1897.

	Cents per pound.
Nitrogen, in ammonia salts,	13½
in nitrates,	14
in dry and fine ground fish, meat and blood, and in mixed fertilizers,	14
in cotton seed meal and castor pomace,	12
in fine bone and tankage,	10
in medium bone and tankage,	9
in coarse bone and tankage,	7
Phosphoric acid, soluble in water, in bone fertilizers,	5½
soluble in water, in rock fertilizers,	3
soluble in ammonium citrate, in bone fertilizers,	5
soluble in ammonium citrate, in rock fertilizers,	2½
insoluble in ammonium citrate, in bone fertilizers,	2
insoluble in ammonium citrate, in rock fertilizers,	1½
Phosphoric acid in fine bone, tankage and fish,	3½
in medium bone and tankage,	2½
in coarse bone and tankage,	2

	Cents per pound.
Phosphoric acid, in fine ground fish, cotton seed meal, castor pomace and wood ashes,	4½
Potash in high grade sulphate and in forms free from muriate (or chloride),	5
as muriate,	4½

POTASH in excess of that equivalent to the chlorine present, will be valued as sulphate, and the remainder as muriate.

NITROGEN in mixed fertilizers will be valued as derived from the best sources of organic nitrogen, unless clear evidence to the contrary is obtained.

PHOSPHORIC ACID in mixed fertilizers is valued at bone phosphoric acid prices unless clearly found to be derived from rock phosphate.

GROUND BONE is sifted into three grades of the following fineness: Fine, less than 1-50 inch; medium, less than 1-25 inch; coarse, over 1-25 inch.

The result obtained by the use of these valuations does not cover the items of mixing, bagging, freight and agents' commissions. To cover these, allowances are made as follows:

For freight, an allowance of $2.00 per ton on all fertilizers.

For bagging, an allowance of $1.00 per ton on all fertilizers.

For mixing, an allowance of $1.00 per ton for complete fertilizers, and rock and potash goods.

For agents' commissions, an allowance of 20 per cent. is added to the cash value of the goods ready for shipment.

TABULATED ANALYSES OF COMMERCIAL FERTILIZERS.

From samples selected by the Secretary and Special Agents of the Pennsylvania Department of Agriculture. Analyses by DR. WILLIAM FREAR, *Chemist of the Department, and of the State College Experiment Station, State College, Pa.*

Samples Selected from January 1, 1897, to August 1, 1897.

COMPLETE FERTILIZERS.

Containing Phosphoric Acid, Potash and Nitrogen.

Sample number.	Name and Address of Manufacturer.	Name of Fertilizer.	Where Selected.	Moisture.	Soluble phosphoric acid.	Reverted phosphoric acid.	Insoluble phosphoric acid.	Potash.	Nitrogen.	Comparative commercial value per ton.	Selling price at point of selection per ton.	Sample number.
489	Allegheny City Fert. Works, Allegheny, Pa.,	Odorless Lawn & Garden Fert.,	Allegheny, ...	5.39	0.33	5.60	9.39	3.36	2.27	$27 21	$40 00	489
490	" " " "	Pure Potato Manure, ...	Allegheny, ...	10.54	3.63	1.81	0.83	3.76	5.23	33 46	35 00	490
491	" " " "	Pure Raw Bone Phosphate, ..	Allegheny, ...	8.16	3.32	3.48	2.53	1.52	4.00	29 24	32 00	491
539	Allentown Mfg. Co., Allentown, Pa.....	Complete Bone Phosphate,.....	Tripoli, ...	10.96	3.50	6.11	6.40	2.05	1.64	27 18	29 00	539
227	J. A. Altland & Co., Davidsburg, Pa.....	Ammoniated Bone Phosphate,..	Woodbine, ...	8.60	7.84	3.02	1.48	1.91	0.99	24 50	20 00	227
234	" " " "	Harvest Queen Phosphate.....	Stewartstown, ...	9.61	6.10	2.40	0.88	2.74	0.91	21 76	17 00	234
235	" " " "	Potato and Tobacco Phosphate,	Stewartstown, ...	8.00	7.04	2.51	1.95	3.78	1.21	25 78	21 00	235

COMPLETE FERTILIZERS—Continued.

Sample number.	Name and Address of Manufacturer.	Name of Fertilizer.	Where Selected.	Moisture.	Soluble phosphoric acid.	Reverted phosphoric acid.	Insoluble phosphoric acid.	Potash.	Nitrogen.	Comparative commercial value per ton.	Selling price at point of selection per ton.	Sample number.
516	Armour Fertilizer Works, Chicago, Ill.,	Grain Grower,	Butler,	5.95	5.17	3.67	4.88	2.64	2.01	27 84	23 00	516
313	R. S. Aucker, Shamokin, Pa.,	H. G. Bone & Slaught. House,	Shamokin,	4.90	4.44	4.86	3.06	2.32	1.99	26 77	28 00	313
315	" " "	Grade C Bone & S. H. Phos.,	Shamokin,	9.42	4.71	3.03	2.10	2.56	0.91	21 06	21 50	315
261	Baltimore Pulverizing Co., Baltimore, Md.,	Farmers' Favorite Fertilizer,	Turnpike,	5.35	1.02	3.87	1.51	1.64	0.95	16 11	18 00	261
271	Baltimore Guano Co., Baltimore, Md.	B. G. Ammoniated Bone Phos.,	Duttera Station,	10.97	5.65	2.49	1.39	2.54	1.25	22 50	24 00	271
399	" " " "	B. G. Potato Fertilizer,	Mechanicsburg,	8.61	6.95	3.03	2.05	2.89	1.82	27 40	35 00	399
246	J. H. Bartenschlager, Stewartstown, Pa.,	Champion Bone Phosphate,	Stewartstown,	11.84	6.29	3.11	3.41	1.82	1.27	24 21	20 00	246
247	" " " "	4 per cent. Champ. Bone Phos.,	Stewartstown,	10.67	6.42	3.61	3.51	3.00	1.04	25 69	22 00	247
27	Baugh & Sons Co., Philadelphia, Pa.,	General Crop Grower,	Media,	12.02	7.90	1.66	2.22	1.23	1.35	23 86	20 00	27
43	" " " "	Special Potato Manure,	Concord,	7.65	4.04	2.56	2.62	10.47	2.09	32 41	30 00	43
103	" " " "	Potato Fertilizer,	Emigsville,	12.74	5.93	2.39	3.57	1.87	1.64	24 39	23 00	103
104	" " " "	Double Eagle Phosphate,	Emigsville,	12.09	6.33	3.31	3.06	0.90	2.03	26 07	23 00	104
202	" " " "	Export Bone with Potash,	Red Lion,	5.86	0.68	4.92	7.52	1.90	2.56	25 42	25 00	202
236	" " " "	Corn Fertilizer,	Stewartstown,	10.44	6.21	2.51	3.93	0.30	1.85	22 89	20 00	236
69	The Berg Co., Philadelphia, Pa.,	$25 Bone Manure,	Lansdale,	6.53	3.98	2.44	5.33	2.68	2.16	25 30	25 00	69

383	" " "	Special Poultry Meat, ...	West Chester, ...	11.77	0.17	0.98	0.82	1.27	10.18	41 88	50 00	383
384	" " "	Standard Bone Manure, ...	West Chester, ...	7.18	3.59	3.65	7.55	6.94	2.97	34 65	32 00	384
385	" " "	$35 Potato Manure, ...	West Chester, ...	9.18	4.34	3.32	5.05	7.00	3.38	35 52	35 00	385
436	" " "	Standard Bone Manure, ...	Lancaster, ...	7.36	4.04	3.79	7.19	5.96	2.95	34 09	29 00	436
437	" " "	Pure Dissolved Bone & Potash,	Lancaster, ...	9 16	2.76	5.08	6.38	3.98	2.54	30.09	28 00	437
530	Berger Bros., Easton, Penna., ...	Lehigh Super-phosphate.	Easton.	9.15	7.30	2.28	1.17	5.44	1.71	28 95	27 50	530
531	" " "	Peerless Phosphate, ...	Easton, ...	8.68	3.57	4.45	3.75	1.68	1.11	21 76	20 00	531
276	D. Blocher & Co., Baltimore, Md., ...	High Grade Super-Phos. of B.,	Gettysburg, ...	8.96	6.42	2.67	4.83	1.17	1.15	23 47	22 00	276
277	" " "	Amm'ted Soluble Bone Phos...	Gettysburg, ...	7.18	8.33	1.89	1.86	1.77	0.61	22 51	17 00	277
167	Bowker Fert. Co., Boston and New York,	Sure Crop Phos., ...	West Point, ...	10.01	6.63	3.63	3.04	1.18	1.07	23 79	25 00	167
168	" " " "	Super-Phosphate with Potash,.	West Point, ...	7.50	3.86	7.08	5.06	1.23	.....	14 61	21 00	168
332	" " " "	Potato & Vegetable Phos.,....	Williamsport, ...	9.93	4.53	4.76	4.30	2.05	1.64	26 08	30 00	332
335	" " " "	Apex Bone Phosphate, ...	Williamsport, ...	5.21	3.88	5.32	3.83	0.43	.....	11 07	14 00	335
336	" " " "	Farm & Garden Phosphate.....	Williamsport, ...	10.25	4.04	4.78	4.76	2.09	1.74	25 94	32 00	236
337	" " " "	Potash Bone, ...	Williamsport, ...	11.88	4.30	5.27	3.38	1.86	0.87	22 87	25 00	337
518	" " " "	Hill and Drill Phosphate, ...	Butler, ...	11.73	3.89	4.57	4.30	2.15	1.81	25 45	33 00	518
107	Horace Brillinger, Emigsville, Pa., ...	Standard High Grade Phos.,..	Emigsville, ...	10.12	2.78	8.59	0.91	2.98	1.46	26 96	23 00	107
108	" " "	Spec. Wheat, Corn & Grass Mix.,	Emigsville, ...	9.78	0.49	9.66	1.01	2.17	1.13	23 31	18 00	108
157	S. B. Brodbeck, Brodbeck's, Pa., ...	Alkaline Phosphate, ...	Brodbeck's, ...	12.11	7.91	3.80	1.38	2.12	.....	15 14	14 00	157
50	Chandler, Russell & Chandler, Newark, N.J.,	Harvest Queen, ...	Brandywine Sum't,	11.21	5.99	5.84	2.16	2.13	1.40	27 40	25 00	50
51	" " " "	Special Potato Manure, ...	Brandywine Sum't,	12.06	5.88	3.65	1.99	6.31	2.18	31 66	25 00	51
52	" " " "	Corn Special, ...	Brandywine Sum't,	14.29	4.49	5.74	1.65	3.60	1.56	27 13	25 00	52
127	" " " "	Champion Manure, ...	York, ...	13.29	2.12	6.07	1.43	2.43	0.82	20 47	21 00	127
143	Chemical Co. of Canton, Baltimore, Md.,	Soluble Bone and Potash, ...	Seven Valley, ...	12.80	3.07	6.65	1.25	2.31	.....	13 53	15 00	143
144	" " " "	Harrow Brand, ...	Seven Valley, ...	11.33	5.40	2.81	2.50	1.45	0.50	20 54	18 00	144

COMPLETE FERTILIZERS.—Continued.

Sample number.	Name and Address of Manufacturer.	Name of Fertilizer.	Where Selected.	Moisture.	Soluble phosphoric acid.	Reverted phosphoric acid.	Insoluble phosphoric acid.	Potash.	Nitrogen.	Comparative commercial value per ton.	Selling price at point of selection per ton.	Sample number.
162	Chemical Co. of Canton, Baltimore, Md.,	Potato Manure, ...	Ambler, ...	6.74	3.23	5.53	1.77	4.45	0.90	$24 03	30 00	162
307	" " " "	C.C.C. Special Potato Manure,	Shamokin, ...	7.00	5.10	1.56	1.91	10.33	2.50	34 60	34 00	307
331	" " " "	Truckers' Delight, ...	Williamsport, ...	7.65	4.21	1.61	3.03	4.10	4.68	33 55	40 00	331
462	" " " "	Baker's Spec. W. & G. Mix.,	Ebensburg, ...	13.14	6.49	2.69	1.61	2.33	1.14	23 40	22 00	462
12	Henry Cope & Co., Lincoln University, Pa.,	Spec. Chester Co. P. & C. Phos.	West Grove, ...	8.85	2.86	4.48	4 31	4.01	1.25	24 15	23 00	12
15	" " " "	Pure Bone Phosphate, ...	West Grove, ...	6.82	3.35	3.91	4.25	2.32	2.24	25 59	27 00	15
346	" " " " ..	Spec. Ches. Co. P. & C. Phos.,	Toughkenamon, ...	8.49	2.44	5.02	4.17	3.90	1.29	24 27	24 00	346
44	Josiah Cope & Co., Lincoln Univers'y, Pa.,	Potato & Tobacco Phosphate,	Concord, ...	10.55	10.38	3.48	0.64	4.17	1.20	31 10	30 00	44
207	" " " "	Soluble Bone and Potash, ...	Windsor, ...	12.30	8.35	4.49	1.38	1.30	.....	15 01	16 00	207
400	" " " "	Muriate of Potash, ...	Leonard, ...	0.46	.....	.....	.....	52.26	.....	58 54	42 00	400
401	" " " "	Nitrate of Soda, ...	Leonard, ...	2.89	.....	.....	.....	.....	15.12	52 74	48 00	401
109	Crocker Fert. & Chem. Co., Buffalo, N.Y.,	Practical Ammoniated Phos.,	Rollands' Siding,..	6.67	5.72	3.62	2.28	1.54	1.13	22 89	23 00	109
110	" " " "	New Rival Am'd Super-phos.,	Rollands' Siding,..	9.88	7.96	2.89	1.03	1.87	1.28	25 26	25 00	110
112	" " " "	Potato, Hop & Tobacco Fert.,	Rollands' Siding,..	10.31	8.13	3.03	0.78	3.47	2.05	29 98	28 00	112

137	" " " "	York County Special Mixture,..	Loganville, ...	7.29	5.14	2.63	2.83	3.03	0.59	21 01	18 00	137
198	" " " "	High Grade Cereal Guano, ...	Red Lion, ...	8.34	6.75	3.40	2.86	1.35	0.88	23 25	25 00	198
428	" " " "	Universal Grain Grower, ...	Ephrata, ...	8.97	5.07	2.29	2.54	2.87	1.08	21 84	26 00	428
433	" " " "	General Crop Phosphate, ...	Ephrata, ...	6.66	3.93	3.30	1.22	1.12	0.93	18 54	24 00	433
208	Louis F. Detrick, Baltimore, Md.,.....	Quick Step Bone Phosphate,..	Windsor Station,..	8.75	7.44	2.16	3.93	3.05	2.10	29 07	25 00	208
409	" " "	Kangaroo Komplete Kompo'd,	Mifflin, ...	9.47	6.88	2.97	3.42	3.01	1.68	27 63	25 00	409
273	Detrick Fert. & Chem. Co., Balto., Md.,	Corn Fertilizer, ...	Plainview, ...	11.97	7.73	2.85	1.66	1.83	0.80	23 54	22 00	273
406	" " " "	Sol. Bone Phos. & Potash Fert.	Newport, ...	11.51	4.90	6.37	1.10	2.59	.....	14 73	18 00	406
339	Jas. G. Downward & Co., Coatesville, Pa..	Special Potato Fertilizer, ...	New London, ...	11.01	6.34	2.03	2.12	4.22	1.63	26 34	28 00	339
340	" " " "	Ammoniated Bone Phosphate,.	New London, ...	11.27	6.03	3.39	2.37	2.49	1.05	23 83	25 00	340
369	" " " "	Royal Bone Phosphate, ...	Embreeville, ...	11.40	6.77	3.17	2.97	2.27	0.94	24 30	23 00	369
64	Wallace Dungan, Doylestown, Pa.,.....	Pebble Hill Animal Bone Phos.,	Doylestown, ...	6.39	2.40	3.79	6.60	5.78	3.99	35 00	29 00	64
17	Eureka Fertilizer Co., Perryville, Md.,.	Corn and Potato Special, ...	West Grove, ...	11.14	6.55	3.16	3.09	1.68	1.23	24 36	20 00	17
18	" " " "	Alkaline Bone and Potash, ...	West Grove, ...	12.82	6.75	4.08	3.41	1.83	.....	14 95	14 00	18
74	" " " "	Wrapper Leaf, ...	Arendtsville, ...	10.55	5.77	2.28	2.76	6.58	1.99	29 92	34 00	74
290	Farmers' Fert. Co., Westminster, Md.,....	XX Bone Phosphate, ...	Sells' Station, ...	11.11	5.54	3.72	1.84	2.63	0.87	22 83	19 00	290
279	W. S. Farmer & Co., Baltimore, Md.,....	B. & P. Fertilizer, ...	Bowmansville, ...	13.29	8.56	3.13	1.31	1.93	.....	15 03	15 50	279
284	" " " "	Clyde Brand, ...	Littlestown, ...	13.12	6.48	2.61	1.55	1.96	0.77	21 48	20 00	284
159	Farmers' Union, Centre Square, Pa., ...	Farmers' Union Phosphate, ...	West Point, ...	9.46	8.37	1.92	0.52	6.30	1.47	29 68	30 00	159
68	Mahlon Fretz, Sellersville, Pa., ...	Standard Ammoniated Phos.,.	Sellersville, ...	7.88	7.43	3.64	1.69	1.50	1.08	24 51	25 50	68
239	Jas. Fulton & Sons' Co., Stewartstown, Pa.,	Potato, Wheat & Corn Fert.,.	Stewartstown, ...	10.66	7.53	2.67	2.22	2.60	2.00	28 14	20 00	239
348	Joseph G. Gawthrop, Kennett Square, Pa.,	Complete Am'ted Bone Phos.,.	Kennett Square, ..	6.76	6.16	2.86	2.46	5.18	1.98	30 10	24 00	348
349	" " " "	Champion Bone Fertilizer, ...	Kennett Square, ..	4.52	2.13	10.22	4.56	2.39	2.84	30 06	25 00	349
241	A. S. Gemmill, Stewartstown, Pa.,.....	Gemmill's Mixture, ...	Stewartstown, ...	12.42	6.32	2.53	3.20	5.33	1.79	29 14	24 00	241
242	" " "	Gemmill's Mixture No. 2, ...	Stewartstown, ...	11.43	6.80	2.67	3.15	3.77	1.66	27 67	21 00	242

COMPLETE FERTILIZERS.—Continued.

Sample number.	Name and Address of Manufacturer.	Name of Fertilizer.	Where Selected.	Moisture.	Soluble phosphoric acid.	Reverted phosphoric acid.	Insoluble phosphoric acid.	Potash.	Nitrogen.	Comparative commercial value per ton.	Selling price at point of selection per ton.	Sample number.
446	Great Eastern Fertilizer Co., New York...	Vegetable, Vine & Tobacco Fert..	Lititz, ...	10.53	7.76	1.61	1.91	3.70	2.11	$28 58	$29 00	446
447	" " " "	Garden Special Fertilizer, ...	Lititz, ...	9.13	6.05	1.45	1.14	8.82	3.05	34 44	38 00	447
121	Griffith & Boyd, Baltimore, Md., ...	Ammoniated Bone Phosphate...	York, ...	8.07	6.44	3.42	3.17	2.46	1.43	26 29	23 00	121
122	" " "	Valley Fertilizer, ...	York, ...	9.80	4.52	3.74	1.79	2.73	0.48	20 36	17 00	122
123	" " "	Cereal Bone Plant Food, ...	York, ...	11.24	5.84	2.72	2.12	2.52	0.68	21 49	19 00	123
150	" " "	Ammoniated Soluble Bone, ...	Glen Rock, ...	10.52	4.35	2.94	2.33	2.48	0.88	29 52	22 00	150
249	" " "	Spring Crop Grower, ...	Stewartstown, ...	8.95	4.47	2.34	1.99	5.49	1.38	25 00	24 00	249
282	" " "	Ammoniated Dissolved Bone,..	Littlestown, ...	4.63	7.01	4.07	2.88	.....	1.65	24 24	19 00	282
404	" " "	Peerless Fertilizer, ...	Newport, ...	8.68	3.76	4.02	1.91	2.88	0.30	14 36	16 50	404
453	" " "	Tobacco Grower, ...	Lititz, ...	8.66	6.46	3.03	2.57	3.72	1.76	28 05	30 00	453
219	A. M. Grove & Co., Muddy Creek Forks, Pa.,	Special Potato Fertilizer, ...	Brogueville, ...	8.98	6.41	2.87	0.91	5.47	0.79	25 34	22 00	219
220	" " " " ..	Standard Bone Phosphate, ...	Brogueville, ...	8.98	8.76	2.68	2.07	2.34	1.48	27 86	23 00	220
57	H. F. Hager, Quakertown, Pa., ...	Panic Phosphate, ...	Richland Centre, .	9.34	5.76	3.43	1.71	1.95	1.32	23 43	20 00	57
65	" " "	Ammoniated Super-Phosphate,.	Richland Centre, ..	6.57	5.61	3.78	1.71	5.61	2.27	30 78	30 00	65
216	J. D. Hake, Felton, Pa., ...	Bone and Potash, ...	Felton, ...	6.98	5.51	3.24	1.71	2.44	0.42	20 61	15 00	216

217	" "	Harvest Queen Phosphate.	Felton, ...	6.75	6.02	2.55	1.52	2.67	0.82	22 01	17 50	217
85	Hanover Bone Fert. Co., Hanover, Pa.	Farmers' Crop Winner, ...	Gardner's Station,.	7.52	1.02	6.18	1.67	1.68	0.52	17 47	18 00	85
86	" " " "	Dissolved Bone Phosphate,....	Gardner's Station,.	13.27	6.77	3.71	1.02	2.15	.....	14 20	16 00	86
87	" " " "	Blood and Bone Compound, ..	Gardner's Station,.	6.98	2.67	6.42	2.30	1.61	0.72	20 83	25 00	87
88	" " " "	Excelsior Combine, ...	Gardner's Station,.	9.62	6.35	2.91	1.93	3.35	1.75	26 71	22 00	83
95	" " " "	Daron's Harvest King Bone P.,	Dover, ...	11.92	6.22	2.78	2.20	4.70	1.41	26 78	22 00	93
254	S. M. Hess & Bro., Phila. & Reading, Pa.,	Keystone Bone Phosphate, ...	Berks, ...	8.03	0.88	11.01	1.15	1.23	1.13	24 56	24 00	254
255	" " " "	Potato and Truck Manure, ..	Berks, ...	6.25	2.45	6.29	0.80	5.95	2.16	29 24	30 00	255
442	" " " "	Emperor Phosphate, ...	Quarryville, ...	11.20	5.04	6.45	1.81	1.44	.....	14 13	16 00	442
80	Hubbard & Co., Baltimore, Md.,.....	Farmers' IXL Fertilizer, ...	York Springs, ...	10.19	5.83	2.19	1.54	2.21	1.62	23 24	19 55	80
192	" " "	Gem Phosphate, ...	Dallastown, ...	10.29	6.56	2.33	1.11	1.78	0.58	20 36	21 00	192
309	" " "	Soluble Bone and Potash, ...	Paxinos, ...	12.10	7.12	3.14	0.64	1.79	.....	13 59	16 00	309
310	" " "	Crescent Sol. Crop Producer,..	Paxinos, ...	11.74	7.46	3.46	0.79	0.77	.....	12 94	14 00	310
214	M. P. Hubbard & Co., Baltimore, Md.,	Farmers' Old Economy, ...	Felton, ...	7.74	5.13	2.50	1.35	1.76	0.73	19 27	17 00	214
215	" " " "	Farmers' Acme Fertilizer, ...	Felton, ...	8.73	6.62	2.12	1.43	1.87	1.46	23 20	22 00	215
265	" " " "	Am'ted Bone & Potash Fert.,.	Hanover, ...	8.31	5.46	2.00	1.12	2.34	1.05	20 62	20 00	265
457	Jarecki Chemical Co., Sandusky, Oh'o,..	Lake Erie Fish Guano, ...	Lilly, ...	9.62	3.76	6.06	2.39	2.09	1.65	25 76	28 00	457
458	" " " " ..	Double Guano, ...	Lilly, ...	9.41	7.57	3.81	1.98	2.16	2.78	31 61	30 00	458
459	" " " " ..	Super-Phosphate, ...	Lilly, ...	10.74	5.34	5.82	2.39	1.02	0.61	22 96	24 00	459
481	" " " " ..	Fish & Pot.Tob.& Potato Food,.	Johnstown, ...	10.22	4.77	4.98	2.93	2.91	1.37	25 93	28 00	481
174	Keystone Chem. Mfg. Co., Camden, N. J.,	Special Potato Manure, ...	Fort Washington,..	9.53	7.74	4.24	1.12	5.44	1.68	31 87	28 00	174
206	James W. Kilgore, Brogueville, Pa., ...	Dissolved Bone Phosphate, .	Windsor Station, .	11.60	7.06	3.34	1.96	2.16	0.81	23 68	22 00	206
280	G. F. Krug, Kingsdale, Pa., ...	Ammoniated Bone Phosphate,.	Kingsdale, ...	7.57	5.91	2.95	2.74	2.21	1.28	23 98	20 00	280
153	J. A. Klinefelter, Glenville, Pa., ...	Bone Phos. for Oats, etc., ...	Glenville, ...	10.78	7.14	2.86	1.70	1.11	0.96	22 78	18 00	153
423	Lancaster Chemical Co., Lancaster, Pa., ..	Flag Brand Super-Phosphate,.	Reading, ...	6.01	5.46	4.02	1.41	2.97	1.45	25 40	25 00	423

COMPLETE FERTILIZERS—Continued.

Sample number.	Name and Address of Manufacturer.	Name of Fertilizer.	Where Selected.	Moisture.	Soluble phosphoric acid.	Reverted phosphoric acid.	Insoluble phosphoric acid.	Potash.	Nitrogen.	Comparative commercial value per ton.	Selling price at point of selection per ton.	Sample number.
424	Lancaster Chemical Co., Lancaster, Pa.,	Rising Sun An'l Bone Phos.,	Reading, ...	5.74	5.73	4.31	1.89	3.01	2.30	29 40	30 00	124
203	Lazaretto Guano Co., Baltimore, Md.,..	Ammoniated Bone Phosphate,.	Red Lion, ...	12.92	6.16	2.67	1.54	2.03	0.81	21 36	20 00	203
204	" " " " ..	Alkaline Phosphate, ...	Red Lion, ...	12.02	8.34	3.78	1.35	1.53	.....	14 84	14.50	204
218	" " " " ..	Bone Compound, ...	Brogueville, ...	9.72	7.19	2.67	1.60	2.27	1.07	23 82	20 00	218
195	B. F. Lebernight, Red Lion, Pa.,	Standard Animal Bone Phos.,	Red Lion, ...	8.26	6.66	3.09	2.28	2.71	1.25	25 38	22 00	195
49	Lister's Agr'l Chem. W'ks, Newark, N. J.,	Harvest Queen, ...	Brandywine Sum't,	8.20	6.51	3.26	1.99	2.24	1.34	24 81	25 00	49
63	" " " "	Special Potato Fertilizer, ...	Quakertown, ...	8.50	7.30	2.50	2.60	3.64	1.70	28 14	27 00	63
186	" " " "	Animal Bone and Potash, ...	New Oxford, ...	12.71	8.15	3.28	0.68	3.26	.....	16 00	28 00	186
546	" " " "	Lawn Fertilizer, ...	Bethlehem, ...	9.41	6.42	0.53	1.67	4.06	1.83	25 28	35 00	546
549	" " " "	Special Potato Manure, ...	Brandamore, ...	8.76	6.81	3.08	2.00	3.32	1.61	27 00	28 00	549
278	John A. Livers, Gettysburg, Pa., ...	Gold Dust Super-Phosphate...	Gettysburg, ...	6.25	4.33	3.27	1.31	1.88	0.81	19 41	24 00	278
296	Mapes Formula & Peru. Guano Co.,N.Y.,	Manure for Potatoes, ...	Northumberland, ..	5.80	6.39	1.53	2.51	6.65	3.56	35 71	40 00	296
376	" " " "	XXV Phosphate, ...	Downingtown, ...	8.82	5.26	2.13	2.00	1.24	2.14	23 46	25 00	376
133	Maryland Fertilizer Co., Baltimore, Md.,..	Ammoniated Bone, ...	Brillharts, ...	10.37	6.09	2 87	3.56	1.77	1.94	26 02	26 00	133
135	" " " "	Globe Complete Manure, ...	Brillharts, ...	10.78	7.49	0.98	3.34	2.76	1.63	25 57	24 00	135

285	" " " " ..	Ammoniated O. K. Fertilizer,	Littlestown, ...	10.34	6.75	2.15	2.05	1.83	1.02	22 24	18 00	285
141	Miller Fertilizer Co., Baltimore, Md., ..	Hustler Phosphate, ...	Logansville, ...	8.41	8.09	2.17	1.57	3.01	0.82	24 40	20 00	141
142	" " " " ..	Harvest Queen Phosphate, ...	Loganville, ...	8.11	8.92	1.97	1.63	2.35	1.40	26 53	22 00	142
527	Milsom Rend. & Fert. Co., Buffalo, N.Y.,.	Dissolved Bone and Potash,. .	Saltsburg, ...	10.99	7.68	3.87	0.50	1.48	.....	14 06	21 00	527
528	" " " "	Corn Fertilizer, ...	Saltsburg, ...	12.83	5.97	1.97	1.40	2.07	2.14	24 78	30 00	528
361	Monumental Chemical Co., Baltimore, Md.,	Bone Phosphate and Potash,..	Chadds Ford Junc.,	10.11	7.77	3.34	1.74	1.98	.....	14 79	16 00	361
243	Aug. Neller & Co., Stewartstown, Pa.,..	Special Compound.	Stewartstown, ...	9.11	7.77	1.74	2.02	1.63	0.93	22 74	19 00	243
244	" " " " ..	Prolific Phosphate, ...	Stewartstown, ...	8.70	8.55	1.86	1.58	2.81	1.57	26 91	22 00	244
60	Wm. C. Newport Co., Willow Grove, Pa.,	Rectified Phosphate, ...	Doylestown, ...	8.02	4.29	3.68	5.82	4.50	2.71	31 23	34 00	60
61	" " " "	All Crop Phosphate, ...	Lansdale, ...	8.02	2.97	3.24	1.93	1.47	1.56	19 92	23 00	61
177	" " " "	$32 Phosphate, ...	Ambler, ...	7.66	3.98	1.90	3.02	4.40	2.13	25 38	32 00	177
178	" " " "	10 per cent. Potash Phosphate,	West Point, ...	9.47	3.42	2.05	1.84	8.25	1.05	24 68	30 00	178
193	Niagara Fertilizer Co., Buffalo, N. Y., ..	Grain and Grass Grower, ...	Dallastown, ...	4.74	3.56	3.53	1.25	1.18	1.06	18 78	24 00	193
117	North Western Fertilizer Co., Chicago, Ill..	Ammoniated Dissolved Bone,..	York, ...	9.44	6.09	2.81	3.87	0.98	2.51	27 20	25 00	117
118	" " " "	Horse Shoe Brand Pot. Grow.,	York, ...	10.24	5.10	3.42	2.50	2.74	3.05	29 80	28 00	118
119	" " " "	Challenge Corn Grower, ...	York, ...	10.45	5.63	3.10	3.83	0.90	2.81	27 90	25 00	119
120	" " " "	Prairie Phosphate, ...	York, ...	9.48	5.95	3.09	3.55	1.07	2.34	25 84	23 00	120
224	" " " "	Farmers' High Grade Stand'd.	Bridgeton, ...	7.53	6.70	3.60	3.62	0.45	1.92	26 22	25 00	224
475	" " " "	Garden City Super-Phosphate,	Johnstown, ...	12.22	5.46	2.72	4.59	0.88	2.62	26 89	27 00	475
200	G. Ober & Sons, Baltimore, Md., ...	Special Am'ted Dis. Bone,....	Red Lion, ...	10.70	7.59	2.28	1.15	2.62	1.53	25 70	20 00	200
201	" " " "	Farmers' Stand'd Am. Phos.,	Red Lion, ...	10.32	8.00	2.05	1.20	2.55	2.08	27 81	22 00	201
417	Packers' Union Fertilizer Co., New York	Universal Fertilizer, ...	Pottsgrove, ...	2.26	7.90	1.35	0.87	5.30	1 16	26 44	25 00	417
421	" " " "	Animal Corn Fertilizer, ...	Harrisburg, ...	10.32	8.64	1.55	1.93	2.53	2.64	30 30	32 00	421
422	" " " "	Gardeners' Complete Manure,.	Harrisburg, ...	3.93	8.84	1.23	0.42	10.07	2.59	37 33	37 00	422
116	Patapsco Guano Co., Baltimore, Md.,...	Baltimore Soluble Phosphate,.	York, ...	11.70	9.33	3.28	0.86	1.85	.....	15 39	15 00	116

COMPLETE FERTILIZERS—Continued.

Sample number.	Name and Address of Manufacturer.	Name of Fertilizer.	Where Selected.	Moisture.	Soluble phosphoric acid.	Reverted phosphoric acid.	Insoluble phosphoric acid.	Potash.	Nitrogen.	Comparative commercial value per ton.	Selling price at point of selection per ton.	Sample number.
128	Patapsco Guano Co., Baltimore, Md.,	Ammoniated Corn Fertilizer,	York,	10.72	6.28	2.70	1.34	2.34	1.17	$22 95	$21 00	128
129	" " " "	Coon Brand Guano,	York,	11.56	5.69	2.78	1.52	3.15	0.86	22 27	20 00	129
130	" " " "	Grange Mixture,	York,	9.45	7.23	3.01	2.53	2.05	1.57	26 20	22 00	130
131	" " " "	Early Trucker,	York,	6.87	6.89	2.10	1.89	4.43	3.79	34 52	32 00	131
418	Penna. Amm'a & Fert. Co., Harrisurg, Pa.,	Special Tobacco Fertilizer.	Harrisburg,	4.32	4.35	2.14	2.91	10.97	3.43	38 85	33 00	418
419	" " " "	Capital Bone Super-Phos.,	Harrisburg,	7.47	6.90	3.83	1.98	2.29	2.95	31 46	31 00	419
420	" " " "	Special Potato & Veg'ble Fert.,	Harrisburg,	6.68	6.07	3 56	2.05	9.00	1.70	33 13	33 00	420
370	J Douglass Perkins, Coatesville, Pa.,	Monarch Bone & Potash Fert.,	Coatesville,	9.95	6.52	2.38	1.50	7.91	0.71	27 46	28 00	370
321	Moro Phillips Chem. Co., Philad'a, Pa.,	Alkaline Bone No. 2,	Bloomsburg,	5.43	5.46	3.25	1.12	2.00	.....	13 04	16 00	321
543	" " " "	Pure Phuine,	Philadelphia,	9.64	5.39	3.54	2.40	2 90	1.73	25 95	32 00	543
544	" " " "	New Jersey Potato Manure,	Philadelphia,	9.59	5.63	1.96	0.74	8.26	1.53	28 69	35 00	544
506	Pittsburg Provision Co., Pittsburgh, Pa.,	Pure Bone with Potash,	Pittsburg,	4.18	4.68	4.63	6.14	3.22	1.84	29 13	28 00	506
507	" " " "	Corn and Potato Fertilizer,	Pittsburg.	5.30	5.00	4.42	5.70	2.27	1.99	28 44	25 00	507
510	" " " "	Keystone Fertilizer,	Pittsburg,	4.26	2.79	3.83	5.50	3.10	1.59	24 39	22 00	510
511	" " " "	Guano Fertilizer,	Pittsburg,	3.94	2.92	4.55	4.82	.....	1.62	20 00	20 00	5 1

91	R. H. Pollock, Baltimore, Md.	Spec. Potato & Tobacco Fert.	Dillsburg,	10.41	6.97	2.26	1.35	4.56	1.91	28 29	25 00	91
93	" " "	Corn and Tomato Fertilizer,	Dillsburg,	10.44	6.34	2.86	1.42	2.28	1.30	23 73	19 00	93
154	" " "	Victor Bone Phosphate,	Porter's Sideling,	10.35	6.34	2.85	0.95	1.04	.....	12 18	16 50	154
524	Quinnipiac Co., New York,	Mohawk Fertilizer,	Saltsburg,	15.57	3.47	4.49	2.13	1.24	1.03	20 28	26 00	524
184	Ramsburg Fertilizer Co., Frederick, Md.	Corn and Potato Fertilizer,	New Oxford,	11.38	6.34	4.66	2.85	1.99	0.99	25.26	19.00	184
286	" " "	Old Virginia Compound,	Littlestown,	10.78	6.60	4.39	3.84	1.67	1.07	25 56	23 00	286
471	Rasin Fertilizer Co., Baltimore, Md.	Special Potato Fertilizer,	Carrolltown,	13.56	5.30	1.82	0.53	3.30	2.68	26 46	28 50	471
393	Reading Chem. & Fert. Co., Reading, Pa.	Quick Phosphate,	Mechanicsburg,	8.95	4.27	3.95	2.65	1.33	0.50	13 94	18 00	393
425	" " "	A. A. Brand Fertilizer,	Reading,	6.11	2.63	3.98	5 56	2.71	1.41	22 93	22 00	425
426	" " "	Potato and Vegetable Fert.	Reading,	8.53	3.76	3.58	3.33	7.55	1.41	28 12	29 00	426
231	Henry Reckord Mfg. Co., Bel-Air, Md.	Ammoniated Bone Phosphate,	Castle Fin,	11.54	6.67	3.10	1.82	2.08	1.31	24 46	22 00	231
34	John S. Reese & Co., Baltimore, Md.	Half and Half,	Media,	9.86	0.50	8.64	1.28	1.22	1.02	20 70	22 00	34
35	" " "	Potato Phosphate,	Media,	9.33	1.67	7.51	2.42	5.73	2.14	30 24	32 00	35
100	" " "	Crown Phosphate and Potash,	Emigsville,	10.45	6.29	5.67	2.61	2.11	.....	15 54	17 50	100
102	" " "	Ammoniated Bone Mixture.	Emigsville,	10.85	1.81	9.42	0.91	2.36	1.01	24 45	22 00	102
145	Isaac Robinson, Baltimore, Md.	Potashed Bone,	Glen Rock,	12.18	7.88	3.72	1.42	1.98	.....	14 97	16 00	145
146	" " "	Special Corn & Oats Phos.	Glen Rock,	9.57	6.06	2.82	2.31	2.38	1.67	24 94	22 00	146
148	" " "	Standard Dissolved Bone Phos.	Glen Rock,	11.91	6.40	2.48	1.67	2.09	0.81	21 60	20 60	148
149	" " "	Special Potato & Tomato Mix.	Glen Rock,	9.50	5.84	2.65	2.48	3.79	1.63	26 13	22 00	149
500	Scientific Fertilizer Co., Pittsburg, Pa.	Corn and Grain Fertilizer,	Pittsburg,	7.42	5.48	2.30	2.07	1.32	1.58	22 18	16 00	500
501	" " " "	Potato Fertilizer,	Pittsburg,	6.42	6.25	1.78	2.27	5.57	2.18	29 95	25 00	501
502	" " " "	Economy Fertilizer,	Pittsburg,	6.85	6.08	2.40	2.22	3.74	2.09	27 94	20 00	502
504	" " " "	Bone and Meat Fertilizer,	Pittsburg,	4.56	3.72	4.29	7.14	0.47	3.63	29 42	18 00	504
24	Sharpless & Carpenter, Philadelphia, Pa.	Gilt Edge Potato Manure,	Media,	8.23	4.75	2.95	3.05	7.06	2.23	30 86	32 00	24
372	" " "	Soluble Bone and Potash,	Coatesville,	8.48	1.88	8.28	4.39	2.36	.....	14 85	16 00	372

COMPLETE FERTILIZERS—Continued.

Sample number.	Name and Address of Manufacturer.	Name of Fertilizer.	Where Selected.	Moisture.	Soluble phosphoric acid.	Reverted phosphoric acid.	Insoluble phosphoric acid.	Potash.	Nitrogen.	Comparative commercial value per ton.	Selling price at point of selection per ton.	Sample number.
378	Sharpless & Carpenter, Philadelphia, Pa.,	Dissolved Bone Phosphate, ...	Downingtown, ...	10.64	4.85	3.47	2.54	5.88	2.50	$30 94	$27 00	378
455	" " " "	Potato, Corn & Truck Guano,	Lilly, ...	7.37	3.57	3.91	3.27	6.30	1.06	25 72	28 00	455
7	M. L. Shoemaker & Co., Philadelphia, Pa.,	Nitrate of Soda, ...	Kelton, ...	0.34	.....	.....	.....	.....	15.66	54 58	47 50	7
8	" " " "	Muriate of Potash, ...	Kelton, ...	0.16	.....	.....	.....	49.95	.....	55 95	41 00	8
56	" " " "	Kainit, ...	Elk View, ...	7.55	.....	.....	.....	12.39	.....	15 39	13 00	56
67	" " " "	Swift-Sure Phos. for Potatoes,	Doylestown, ...	8.87	7.87	2.52	3.56	7.14	2.65	36 16	32 00	67
300	E. A. Slagle, Paxinos, Penna., ...	Ammoniated Bone & Potash,..	Paxinos, ...	8.84	0.39	8.93	1.02	4.15	0.92	23 66	22 00	300
263	H. S. Stick, Glenville, Pa., ...	York County Phosphate, ...	Glenville, ...	7.82	7.35	2.89	2.56	2.02	1.79	27 02	24 00	263
23	Susquehanna Fert. Co., Baltimore, Md.,	Soluble Alkaline Bone Phos.,..	Penn, ...	13.51	5.59	5.14	1.36	2.61	.....	14 83	14 00	23
77	" " " "	XXV Phosphate, ...	Sunnyside, ...	9.80	6.23	3.35	2.27	1.50	0.96	22 57	20 00	77
124	" " " "	Potato Phosphate, ...	York, ...	8.56	7.66	2.35	3.15	5.03	1.72	30 01	27 00	124
30	I. P. Thomas & Son Co., Phila., Pa., ...	Potato and Tomato Manure,..	Media, ...	9.96	7.35	1. 5	2.30	6.02	1.95	30 22	34 00	30
31	" " " " ..	Improved Super-Phosphate, ..	Media, ...	12.10	6.85	2.11	2.05	4.57	1.38	2, 58	22 00	31
33	" " " " ..	Raw and Dissolved Bone, ...	Media, ...	5.90	11.89	2.11	8.79	.....	1.65	31 00	26 00	33
40	" " " " ..	Special Corn Fertilizer, ...	Chester Heights, ..	9.85	3.73	5.60	3.76	9.08	.....	22 38	26 00	40

274	" " " " ..	Alkaline Bone, ...	Biglerville, ...	12.03	5.83	1.52	1.51	2.17	.....	12 38	14 00	274
318	James Thomas, Williamsport, Pa., ...	High-Grade Bone Super-Phos.	Williamsport, ...	9.57	8.29	2.26	1.53	2.11	1.96	27 62	28 00	318
540	J. J. Tust'n, Phoenixville, Pa., ...	Pickering Valley Special, ...	Phoenixville, ...	10.71	4.62	2.81	1.76	1.56	1.09	19 72	24 00	540
541	" " "	Special for Potatoes, ...	Phoenixville, ...	6.55	4.77	2.68	1.63	5.01	0.93	23 01	27 00	541
542	" " "	High Grade Phosphate, ...	Phoenixville, ...	7.50	5.40	3.26	2.49	3.72	2.15	27 85	28 60	542
160	Tygert-Allen Fert. Co., Philadelphia, Pa.,	Star Bone Phosphate, ...	West Point, ...	8.53	8.05	1.92	1.48	2.52	2.01	27 45	26 00	160
39	J. E. Tygert Co., Philadelphia, Pa., ..	Popular Phosphate, ...	Lenni, ...	8.99	3.48	5.61	2.42	1.18	0.47	19 70	24 00	39
158	" " " " ..	Slaughter House Bone, ...	Coatesville, ...	9.21	0.18	4.23	9.53	2.79	2.44	25 54	27 00	158
169	" " " " ..	Potato Fertilizer, ...	Lansdale, ...	8.34	2.76	4.30	1.51	4.94	0.75	21 79	26 00	169
170	" " " " ..	Ammoniated Super-Phosphate .	Lansdale, ...	9.30	7.17	2.03	1.42	1.20	1.45	23 14	25 00	170
373	" " " " ..	Planet Phosphate, ...	Downingtown, ...	12.35	7.04	1.93	1.06	2.06	1.16	22 64	25 00	373
374	" " " " ..	Golden Harvest, ...	Downingtown, ...	12.43	6.52	2.99	1.12	1.93	0.30	14 43	18 00	374
375	" " " " ..	Gold Edge Potato Guano, ...	Downingtown, ...	9.94	6.39	1.58	1.25	4.57	1.50	25 45	25 00	375
440	" " " " ..	Soluble Bone and Potash	Ephrata, ...	11.87	7.43	2.57	1.74	1.57	.....	13 62	18 00	440
441	" " " " ..	Tobacco Fertilizer, ...	Ephrata, ...	9.33	4.86	2.55	1.51	4.25	0.73	21 70	27 00	441
270	Joshua Walker, Baltimore, Md., ...	Victoria Bone, ...	Hanover, ...	8.54	4.76	7.67	2.37	0.90	.....	14 26	15 50	271
494	Walker, Stratman & Co., Pittsburg, Pa.,	Bone and Meat, ...	Pittsburg, ...	4.57	3.11	4.15	7.25	0.55	3.28	28 64	27 00	494
495	" " " "	Potato Special, ...	Pittsburg, ...	5.80	8.47	2.29	2.00	6.87	2.04	34 39	35 00	495
497	" " " "	Smoky City, ...	Pittsburg, ...	10.13	9.53	2.53	1.64	1.37	1.71	27 98	28 00	497
498	" " " "	Four Fold Fertilizer, ...	Pittsburg, ...	7.67	7.32	3.17	1.43	1.78	1.24	24 66	27 00	498
532	W. E. Whann, William Penn, Pa., ...	Special Potato and Truck Fert.	Spring Mill, ...	8.85	5.96	1.90	2.40	6.80	2.58	32 08	31 00	532
533	" " " " ...	Available Am'ted Super-Phos.,	Spring Mill, ...	10.98	7.80	1.72	1.82	2.56	1.10	24 12	22 00	533
534	" " " "	Raw Bone Super-Phosphate,.	Spring Mill, ...	6.93	3.79	4.52	3.30	4.71	2.49	29 88	31 00	534
535	" " " "	Ammoniated Super-Phosphate,	Spring Mill, ...	8.46	6.00	2.07	2.99	3.22	2.31	27 40	27 00	535
536	" " " "	Spec. Ammoniated Super-Phos.	Spring Mill, ...	10.92	7.68	1.70	1.91	2.58	1.00	23 68	19 00	536

COMPLETE FERTILIZERS—Continued.

Sample number.	Name and Address of Manufacturer.	Name of Fertilizer.	Where Selected.	Moisture.	Soluble phosphoric acid.	Reverted phosphoric acid.	Insoluble phosphoric acid.	Potash.	Nitrogen.	Comparative commercial value per ton.	Selling price at point of selection per ton.	Sample number.
537	W. E. Whann, William Penn, Pa., ...	Soluble Bone and Potash	Spring Mill, ...	7.78	2.02	8.31	2.39	4.47	.....	$16 50	$17 00	537
470	M. E. Wheeler & Co., Rutland, Vermont,	Corn Fertilizer, ...	Carrolltown, ...	10.69	7.23	1.55	1.37	2.55	1.67	24 79	26 00	470
520	Williams & Clark Fert. Co., New York...	Prolific Crop Producer, ...	Kittanning, ...	15.46	4.91	3.63	1.51	1.50	1.03	21 12	22 00	520
521	" " " " ..	Dissolved Bone and Potash. ...	Kittanning, ...	10.72	6.79	4.33	2.32	2.09	.....	15 01	19 00	521
522	" " " " ..	Good Grower Potato Phos.,...	Kittanning, ...	13.25	5.23	1.46	1.10	5.06	1.33	23 63	28 00	522
225	Robt. A. Wooldridge & Co., Balto., Md...	Chieftain Bone Stock Phos....	Woodbine, ...	10.19	6.88	3.10	2.00	1.66	1.39	24 68	25 00	225
98	York Chemical Works, York, Pa., ...	New York Phosphate, ...	Dover, ...	9.87	3.48	5.23	1.51	2.41	0.91	21 60	15 00	98
252	E. H. Zeigler & Co., Stewartstown, Pa.,..	Potato Phosphate, ...	Stewartstown, ...	7.83	7.12	1.71	1.72	9.67	2.14	34 35	26 00	252
81	Zell Guano Co., Baltimore, Md., ...	Ammoniated Bone Super-Phos ,	Gardner's Station,.	8.44	6.12	3.53	2.91	2.46	1.65	26 30	24 00	81
82	" " "	Calvert Guano, ...	Gardner's Station,.	10.32	6.55	3.43	3.15	1.90	0.76	23 28	20 00	82
299	" " " "	Spec. Comp'd for Potatoes, etc.,	Northumberland, .	9.67	9.11	1.73	1.08	4.17	2.57	32 07	30 00	299

GROUND BONE.

Containing Phosphoric Acid and Nitrogen.

Samples Selected from January 1, 1897, to August 1, 1897.

Sample number.	Name and Address of Manufacturer.	Name of Fertilizer.	Where Selected.	Moisture.	Insoluble phosphoric acid.	Nitrogen.	Comparative commercial value per ton.	Selling price at point of selection per ton.	Sample number.
488	Allegheny City Fert. W'ks, Allegheny, Pa.,	Pure Raw Bone Meal,	Allegheny,	5.10	23.88	3.17	$28 15	$31 00	488
316	R. S. Aucker, Shamokin, Pa.,	Pure Ground Bone Meal,	Shamokin,	4.93	23.26	3.24	26 74	26 00	316
354	Baugh & Sons Co., Philadelphia, Pa.,	Domestic Animal Bone Dust,	Rosedale,	6.44	24.66	2.27	27 26	25 00	354
382	The Berg Co., Philadelphia, Pa.,	Raw Bone, Fine,	West Chester,	6.63	22.88	3.95	28 78	28 00	382
449	" " "	Raw Bone, Fine,	Lancaster,	6.91	22.53	4.01	28 59	28 00	449
484	Bowker Fert. Co., Boston and New York,	Market Bone,	Greensburg,	5.92	25.17	1.92	26 00	30 00	484
53	Chandler, Russell & Chandler, Newark, N.J.,	Ground Bone,	Brandywine Summit,	6.79	23.03	3.23	26 52	25 00	53
415	Chemical Co. of Canton, Baltimore, Md.,	Bakers' Standard Ground Bone,	Pottsgrove,	3.64	25.27	3.00	30 81	24 00	415
54	E. A. Clendennin & Bro., Colora, Md.,	Pure Animal Bone,	Brandywine Summit,	2.80	27.45	2.66	29 16	26 00	54
341	Jas. G. Downward & Co., Coatesville, Pa.,	Pure Ground Bone,	New London,	7.20	21.48	3.75	25 90	28 00	341
1	Eureka Fertilizer Co., Perryville, Md.,	Pure Raw Bone,	London Grove,	6.81	19.57	4.31	26 91	26 00	1
347	Joseph G. Gawthrop, Kennett Square, Pa.	Fine Ground Bone Meal,	Kennett Square,	6.66	21.92	3.83	28 50	25 00	347
403	Griffith & Boyd, Baltimore, Md.,	Strictly Pure Raw Bone Meal,	Newport,	6.48	24.01	3.79	31 70	29 00	403
89	Hanover Bone Fertilizer Co., Hanover, Pa.,	Pure Bone Meal,	Gardner's Station,	5.17	20.78	3.82	27 86	28 00	89

GROUND BONE—Continued.

Sample number.	Name and Address of Manufacturer.	Name of Fertilizer.	Where Selected.	Moisture.	Insoluble phosphoric acid.	Nitrogen.	Comparative commercial value per ton.	Selling price at point of selection per ton.	Sample number.
443	S. M. Hess & Bro., Philadelphia, Pa.,	Ground Bone,	Quarryville,	6.18	16.72	3.18	$23 37	$28 00	443
480	Jarecki Chemical Co., Sandusky, Ohio,	Pure Ground Bone,	Johnstown,	3.96	18.02	4.11	26 42	28 00	480
172	Keystone Chemical Mfg. Co., Camden, N.J.,	Ground Bone,	Fort Washington,	7.36	23.80	3.78	27 96	30 00	172
435	Lancaster Chemical Co., Lancaster, Pa.,	Pure Raw Bone Meal,	Lancaster,	4.90	22.58	3.75	28 68	28 00	435
545	L. Moritz, Philadelphia, Pa.,	Bone Dust,	Philadelphia,	12.48	25.81	3.16	29 34	30 00	545
258	Penna. Am'a & Fert. Co., Harrisburg, Pa.,	Pure Ground Bone,	Harrisburg,	3.41	22.03	3.85	30 04	30 00	258
505	Pittsburg Provision Co., Pittsburg, Pa.	No. 1 Pure Raw Bone Meal,	P.ttsburg,	5.47	25.51	3.11	27 81	30 00	505
508	" " " "	Crescent Butchers' Gr'd Bone,	Pittsburg,	3.69	18.61	3.26	25 78	25 00	508
509	" " " "	Pure Raw Bone Meal,	Pittsburg,	5.10	20.18	4.01	28 51	27 00	509
503	Scientific Fertilizer Co., Pittsburg, Pa.,	Pure Bone Meal,	Pittsburg,	6.99	22.61	3.74	29 23	22 00	503
48	Scott Fertilizer Co., Elkton, Pa.,	Pure Ground Bone,	Concord,	7.69	24.53	4.13	27 91	28 00	48
26	Sharpless & Carpenter, Philadelphia, Pa.,	Pure Bone Meal,	Media,	7.45	22.60	3.70	29 17	32 00	26
379	" " " "	Ground Steamed Bone,	Downingtown,	5.93	22.13	1.80	24 92	28 00	379
10	M. L. Shoemaker & Co., Philadelphia, Pa.,	Pure Raw Bone Meal,	Oxford,	6.34	22.14	3.99	29 53	25 00	10
37	" " " "	Swift-Sure Ground Bone,	Media,	5.28	22.41	5.24	33 49	28 00	37

355	Swift & Co., Chicago, Illinois, ...	Raw Bone Meal, ...	Fairville, ...	5.41	26.18	3.71	31 18	25 00	355
171	J. E. Tygert Co., Philadelphia, Pa., ...	Pure Ground Bone Meal, ...	Lansdale, ...	6.25	22.91	3.92	27 93	30 00	171
344	Emil Wahl, Philadelphia, Pa., ...	Button Bone Dust, ...	Toughkenamon, ...	11.32	23.81	3.19	31 51	27 00	344
492	Walker, Stratman & Co., Pittsburg, Pa.,	Pure Raw Bone Meal, ...	Pittsburg, ...	7.72	22.32	3.78	28 92	29 00	492
493	" " " "	Butchers' Bone Meal, ...	Pittsburg, ...	4 63	18.01	2.71	24 16	28 00	493
538	W. E. Whann, William Penn, Pa., ...	Pure Ground Bone, ...	Spring Mill, ...	7.79	22.43	3.94	27 82	29 00	538

ACIDULATED SOUTH CAROLINA ROCK.

Containing Phosphoric Acid Only.

Samples Selected from January 1, 1897, to August 1, 1897.

Sample number.	Name and Address of Manufacturer.	Name of Fertilizer.	Where Selected.	Moisture.	Soluble phosphoric acid.	Reverted phosphoric acid.	Insoluble phosphoric acid.	Total phosphoric acid.	Comparative commercial value per ton.	Selling price at point of selection per ton.	Sample number.
238	Baugh & Sons' Co., Philadelphia, Pa.,...	High Grade Acid Phosphate,..	Stewartstown, ...	8.67	11.08	3.52	1.68	16.28	$13 90	$12 00	238
351	" " " "	Dissolved South Carolina Rock,	Rosedale, ...	8.80	12.40	3.91	1.01	17.32	14 83	12 00	351
381	Bowker Fert. Co., Boston & New York,..	Dissolved Bone Phosphate, ..	Williamsport, ...	6.03	6.20	6.36	4.17	16.73	12 99	16 00	534
156	S. B. Brodbeck, Brodbeck's, Pa., ...	Dissolved Bone Phosphate, ...	Brodbeck's Station, ...	6.53	11.15	4.83	1.59	17.57	14 68	12 00	156
223	Chemical Co. of Canton, Baltimore, Md.,	Pure Dissolved S. C. Bone, ...	Bridgeton, ...	9.81	11.55	3.68	1.06	16.29	14 12	11 00	223
90	Clark's Cove Fertilizer Co., New York, ..	Sovereign Acid Phosphate, ...	Dillsburg, ...	9.25	11.64	3.35	1.02	16.01	13 96	11 50	90

SOUTH CAROLINA ROCK—Continued.

Sample number.	Name and Address of Manufacturer.	Name of Fertilizer.	Where Selected.	Moisture.	Soluble phosphoric acid.	Reverted phosphoric acid.	Insoluble phosphoric acid.	Total phosphoric acid.	Comparative commercial value per ton.	Selling price at point of selection per ton.	Sample number.
113	Crocker Fert. & Chem. Co., Buffalo, N. Y.,	Erie Fertilizer, ...	Rollands' Siding, ...	7.51	11.78	3.46	1.23	16.47	14 20	$16 00	113
407	Detrick Fert. & Chem. Co., Baltimore, Md..	Dissolved S. C. Bone, ...	Newport, ...	11.70	12 02	2.82	1.02	15.86	13 92	14 00	107
196	Louis F. Detrick, Baltimore, Md., ...	Orchilla Guano, ...	Red Lion, ...	5.93	0.10	3.61	13.52	17.23	10 32	17 00	196
2	Eureka Fertilizer Co., Perryville, Md.,....	South Carolina Rock, ...	London Grove, ...	12.76	9.25	3.74	3.41	16.40	13 34	10 50	2
19	" " " "	P. & P. Super-Phosphate, ...	West Grove, ...	10.35	9.93	3.08	3.56	16.57	13 48	10 50	19
454	W. S. Farmer & Co., Baltimore, Md.,....	Dissolved S. C. Bone, ...	Patton, ...	11.05	11.33	4.03	1.34	16.70	14 26	15 00	454
350	Joseph G. Gawthrop, Kennett Square, Pa..	Acid Phosphate Rock, ...	Kennett Square, ...	8.18	10.97	4.21	1.45	16.63	14 17	10 00	350
152	Griffith & Boyd, Baltimore, Md., ...	High Grade Acid Phosphate...	Glen Rock, ...	7.85	7.09	6.51	2.63	16.23	13 17	11 00	152
94	Hanover Bone Fert. Co., Hanover, Pa....	Dissolved S. C. Rock, ...	Dover, ...	8.80	11.13	4.54	1.20	16.87	14 36	13 00	94
293	S. M. Hess & Bro., Philadelphia, Pa.,....	High Grade Acid Phosphate,..	Hedlersburg, ...	9.09	10.50	4.77	1.90	17.17	14 30	15 00	293
96	M. P. Hubbard & Co., Baltimore, Md.,....	High Grade Sol. S. C. Phos.,	Dover, ...	10.11	11.68	3.30	0.68	15.66	13 84	12 00	96
311	Hubbard & Co., Baltimore, Md., ...	High Grade S. C. Phosphate,.	Paxinos, ...	9.77	10.26	3.78	1.30	15.34	13 33	15 00	311
281	G. F. Krug, Kingsdale, Penna., ...	XX Acid Phosphate, ...	Littlestown, ...	11.87	8.54	6.39	1.45	16.38	13 72	13 00	281
205	Lazaretto Guano Co., Baltimore, Md.,....	Pure Dissolved S. C. Bone, ...	Red Lion, ...	8.45	11.96	4.00	1.29	17.25	14 67	13 00	205
221	" " " "	Lazaretto Acid Phosphate,....	Muddy Creek Forks, ...	7.06	7.16	7.53	1.52	16.21	13 42	11 00	221

132	Maryland Fertilizing Co., Baltimore, Md.,.	Dissolved Phosphate, ...	Brillhart Station, ...	10.25	11.28	3.14	1.98	16.40	13 94	14 00	132
229	Miller Fertilizer Co., Baltimore, Md., ...	South Carolina Bone, ...	Castle Fin, ...	9.62	10.96	3.74	1.96	16.66	14 05	11 00	229
431	Moore, Donaho & Co., Baltimore, Md.,..	Natural Plant Food, ...	Quarryville, ...	3.11	0.18	0.69	23.80	24.67	12 30	16 00	131
359	Monumental Chemical Co., Baltimore, Md.,	Acid Phosphate, ...	Chadds' Ford Junction,..	8.08	11.85	2.67	2.37	16.89	14 20	10 00	359
163	Moro Phillips Chem. Co., Philadelphia, Pa..	Acid Phosphate, ...	West Point, ...	6.75	10.05	4.05	2.11	16.21	13 63	13 00	163
411	" " " "	Dissolved Bone Phosphate, ...	Newport, ...	7.22	13.12	2.89	1.59	17.60	14 95	16 00	411
183	The Rasin Fertilizer Co., Baltimore, Md.,	Acid Phosphate, ...	Table Rock, ...	9.35	11.68	3.68	1.93	17.29	14 53	12 00	183
36	John S. Reese & Co., Baltimore, Md.,....	Dissolved Phosphate of Lime,.	Media, ...	11.13	12.02	2.07	1.07	15.16	13 50	13 00	36
147	Isaac Robinson, Baltimore, Md., ...	High Grade Soluble Phos.,....	Glen Rock,.	9.42	12.22	3.69	1.17	17.08	14 66	13 00	147
371	Sharpless & Carpenter, Philadelphia, Pa.,	Dissolved S. C. Phosphate, ...	Coatesville, ...	10.88	12.22	2.26	2.21	16.69	14 17	13 00	371
9	M. L. Shoemaker & Co., Philadelphia, Pa.,	Dissolved S. C. Rock, ...	Lincoln, ...	11.57	12.94	1.41	1.00	15.35	13 72	12 00	9
288	Slingluff & Co., Baltimore, Md., ...	Dissolved S. C. Bone, ...	Littlestown, ...	10.02	12.02	2.98	0.96	15.99	14 02	12 50	288
262	H. S. Stick, Glenville, Pa., ...	Dissolved S. C. Bone, ...	Glenville, ...	8.23	12.34	3.08	1.84	17.26	14 60	12 00	262
22	Susquehanna Fert. Co., Baltimore, Md.,..	Superior Rock Phosphate, ...	Penn, ...	9.82	12.58	2.36	1.35	16.29	14 18	10 50	22
29	I. P. Thomas & Son Co., Philadelphia, Pa.,.	South Carolina Phosphate, ...	Media, ...	5.75	10.60	3.18	2.69	16.47	13 70	13 00	29
550	" " " "	Acidulated Phosphate, ...	Rutherford, ...	10.24	8.93	4.01	3.57	16.51	13 33	13 00	550
388	Tygert-Allen Fert. Co., Philadelphia, Pa.,	Howitz's Acid Phosphate, ...	West Chester, ...	8.61	12.03	2.92	1.05	16.00	14 00	14 00	388
269	Joshua Walker, Baltimore, Md., ...	South Carolina Phosphate, ...	Hanover, ...	7.85	12.96	3.45	0.88	17.29	14 92	13 00	269
499	Walker, Stratman & Co., Pittsburg, Pa.,	Helpmate Super-Phosphate, ..	Pittsburg, ...	9.42	8.43	3.41	0.65	12.49	11 56	18 00	499
338	W. E. Whann, Spring Mill, Pa., ...	South Carolina Phosphate, ...	New London, ...	7.32	14.32	2.36	1.03	17.71	15 30	12 00	338
523	Williams & Clark Fert. Co., New York,..	Acorn Brand Acid Phosphate,	Kittanning, ...	8.67	12.84	3.57	0.69	17.10	14 84	17 00	523
83	The Zell Guano Co., Baltimore, Md., .	Dissolved Bone Phosphate, ...	Gardner's Station, ...	8.73	12.66	2.77	1.63	17.06	14 56	14 00	83
84	" " " "	Dissolved S. C. Phosphate, ...	Gardner's Station, ...	8.85	12.21	2.78	2.13	17.12	14 42	13 00	84